



Technical data

729 Pro Automatic Pressure Calibrator

Portable automatic pressure calibrator simplifies pressure calibration to 1,000 psi



The Fluke 729 Pro Automatic Pressure Calibrator is designed specifically for process technicians to simplify pressure calibration and provide faster, more accurate test results.

With an automatic internal electric pump, a target pressure can be set in 729 Pro, and the calibrator automatically pumps to the desired pressure. Then internal fine adjustment control automatically stabilizes and holds the pressure at the desired value.

The Fluke 729 Pro can also automatically test multiple pressure test points and automatically document the results. Calibration is as easy as typing in the starting and ending pressure, the number of test points and tolerance level; the 729 Pro does the rest.

Built-in HART communication capabilities enable HART transmitter mA adjustments, light HART configuration and the ability to adjust to applied 0% and 100% pressure values.

Fluke 729 Pro Key Features

- Automatic pressure generation and regulation to 1000 psi, 7 MPa
- Replaceable pressure control modules
- Fast to high pressure setpoints, get more done
- Built-in test template, easy one-button documented calibration
- HART communication
- Pressure leakage testing
- Automatic fine-pressure adjustment, automatic pressure stabilization
- Powerful Li-ion battery
- Extend measurement range with 750 PSeries pressure modules
- Measure temperature with 720RTD probe
- Bright dual-three-channel/color graphic display
- Rugged and portable design with standard 3-year warranty



Fluke 729 Pro performs automatic pressure calibration with excellent portability of less than 5 kg. Engineers and technicians are no longer restricted by the environment and can perform efficient calibration at will. The 729 Pro can be widely used in electric power, petroleum, chemical, pharmaceutical, metrology, metallurgy, biology, food, transportation and automobile manufacturing.

Automatic pressure generation and regulation to 7 MPa (70 bar, 1000 psi). Enter a pressure up to 7 MPa and the 729 Pro will automatically pump to the desired pressure. The 729 Pro can also output changing pressure in step values or a linear ramp.

Easy calibration documentation using well-defined templates for transmitters and switches. Type in the starting and ending test pressures and number of test points, the 729 Pro does the rest by documenting the applied pressure, measured mA and % error for each test point. The bright color graphical display will flag test results that are out of tolerance in red.

Key Parameters

| | 729 Pro 7M | 729 Pro 4M |
|---|---|--|
| Pressure control range | (-13 to 1000) psi (-90 to 7000) kPa (-0.90 to 70) bar | (-13 to 600) psi (-90 to 4000) kPa (-0.90 to 40) bar |
| Pressure type | Gauge/absolute (Depends on the type of pressure module) | |
| Control stability | 0.005 % of FS, minimum | |
| Built-in replaceable pressure control modules | 6 modules | 4 modules |
| External pressure measurement modules | 750 Series pressure modules, 50 models ranging from 0 to 1 in H ₂ O, 2.5 mbar, 250 Pa to 10,000 psi, 70 bar, 7 MPa | |
| mA sourcing/measurement | Yes | |
| Voltage measurement | Yes | |
| Loop power | 24 V dc | |
| One-key calibration | Task templates make documented automatic calibrations easy. | |
| Pressure switch testing | Yes | |
| Pressure leakage testing | Yes | |
| HART | Yes | |
| Autostep/auto ramp | Yes (with customizable speed, mode and style) | |
| Log function | Yes | |
| Software | DPCTrack2 Calibration and Asset Management Software | |
| One-key pressure-relief | Yes (muffler) | |
| Battery | Rechargeable lithium battery with capacity indication (charged with the instrument or separately) | |
| Language | English/Simplified Chinese | |

Replaceable pressure control modules. Freely switch the pressure output range to achieve range matching without having to buy a complete new calibrator.

No tools required powerful Li-ion battery. The lithium battery equipped can be charged separately or with the device, along with a capacity indicator to confirm the power before installation. It is easy to replace the battery without any tools.

HART communication enables mA output trim, trimmed to applied values, and pressure zero trimming of HART pressure transmitters. You can easily change a transmitter tag, measurement units and ranges. Other supported HART commands include setting fixed mA outputs for troubleshooting, reading device configuration parameters and reading device diagnostics.



Figure 1. Rechargeable lithium battery with capacity indication.

Pressure module specifications

| | Pressure type | Range | Resolution | Total uncertainty | 729 Pro4M | 729 Pro7M |
|-----------------------------|---------------|---|--|-------------------|-----------|-----------|
| FLK-PMM-200K ¹ | gauge | (-15 to 30) psi (-100 to 200) kPa (-1 to 2) bar | 0.0001 psi 0.001 kPa 0.00001 bar | 0.02 % FS/year | • | • |
| FLK-PMM-200KA ² | absolute | (0 to 30) psi (0 to 200) kPa (0 to 2) bar | 0.0001 psi 0.001 kPa 0.00001 bar | 0.05 % FS/year | • | • |
| FLK-PMM-2000K ¹ | gauge | (-14 to 300) psi (-95 to 2000) kPa (-0.95 to 20) bar | 0.001 psi 0.01 kPa 0.0001 bar | 0.02 % FS/year | • | • |
| FLK-PMM-4000K ¹ | gauge | (-14 to 600) psi (-95 to 4000) kPa (-0.95 to 40) bar | 0.01 psi 0.01 kPa 0.0001 bar | 0.02 % FS/year | • | • |
| FLK-PMM-7000K ¹ | gauge | (-14 to 1000) psi (-95 to 7000) kPa (-0.95 to 70) bar | 0.01 psi 0.01 kPa 0.0001 bar | 0.02 % FS/year | | • |
| FLK-PMM-7000KA ² | absolute | (0 to 1000) psi (0 to 7000) kPa (0 to 70) bar | 0.01 psi 0.01 kPa 0.0001 bar | 0.02 % FS/year | | • |

¹ Measurement reference

² Absolute reference

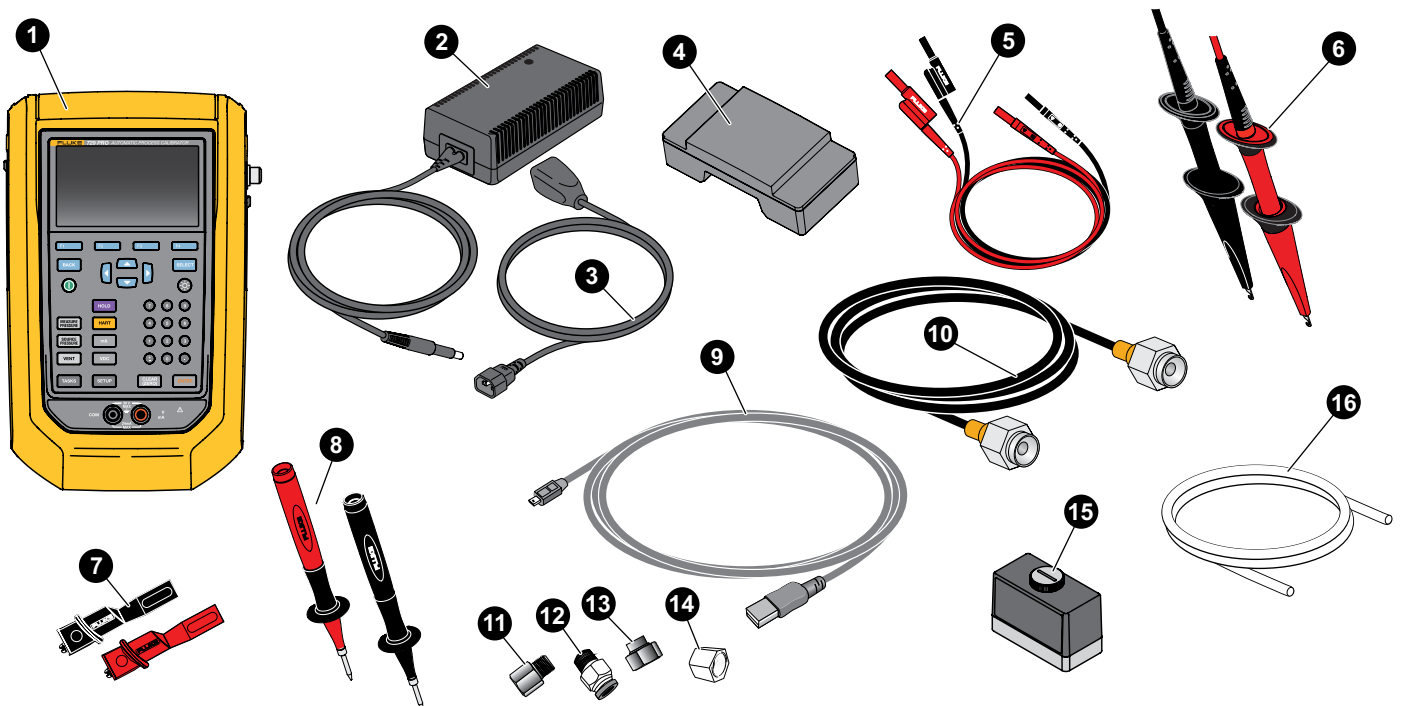
Air or non-corrosive gases only / 15 °C to 35 °C (59 °F to 95 °F)

Specifications

| | 729 Pro 7M | 729 Pro 4M |
|--|---|------------|
| Pressure specifications (See User Manual for detailed specifications) | | |
| 1-year specifications | 0.02 % of FS | |
| Control specifications | 0.005 % of FS | |
| Electrical specifications (*All specifications are valid to 110 % of range, except 24 mA sourcing and simulating which are valid to 100 % of range) | | |
| mA measure, source and simulate | 0 mA to 24 mA (resolution of 1 μ A) | |
| Volts dc measurement | 0 V dc to 30 V dc (resolution of 1 mV) | |
| Accuracy | 0.01 % FS \pm 2 LSD (23 $^{\circ}$ C \pm 5 $^{\circ}$ C) | |
| Stability | 20 ppm FS/ $^{\circ}$ C (-10 $^{\circ}$ C to +18 $^{\circ}$ C and 28 $^{\circ}$ C to 50 $^{\circ}$ C) | |
| Loop compliance voltage | 24 V dc @ 20 mA | |
| mA simulation working voltage | 12 V dc to 30 V dc | |
| Temperature measurement, 100 Ω Pt (385) RTD | -50 $^{\circ}$ C to +150 $^{\circ}$ C (-58 $^{\circ}$ F to 302 $^{\circ}$ F) | |
| Temperature resolution | 0.01 $^{\circ}$ C (0.01 $^{\circ}$ F) | |
| Temperature accuracy | \pm 0.1 $^{\circ}$ C (0.2 $^{\circ}$ F) \pm 0.25 $^{\circ}$ C (\pm 0.45 $^{\circ}$ F) combined uncertainty when using 720 RTD probe (optional accessory) | |
| Drive capability (mA source) | 1200 Ω (without HART resistor), 950 Ω (with internal HART resistor) | |
| Mechanical specifications | | |
| Dimensions (H x W x L) | 290 mm x 215 mm x 100 mm (11.4 in x 8.5 in x 3.9 in) | |
| Weight | 4.9 kg (10.89 lbs) | |
| Environmental specifications | | |
| Operating temperature | -10 $^{\circ}$ C to 50 $^{\circ}$ C | |
| Pressure control | 0 $^{\circ}$ C to 50 $^{\circ}$ C | |
| Battery charging | 0 $^{\circ}$ C to 40 $^{\circ}$ C | |
| Storage temperature | -20 $^{\circ}$ C to 60 $^{\circ}$ C | |
| Operating altitude | < 3000 m | |
| Storage altitude | < 13000 m | |
| Operating humidity | Non-condensing (< 10 $^{\circ}$ C) \leq 90 % RH (10 $^{\circ}$ C to 30 $^{\circ}$ C) \leq 75 % RH (30 $^{\circ}$ C to 40 $^{\circ}$ C) \leq 45 % RH (40 $^{\circ}$ C to 50 $^{\circ}$ C) | |
| Safety | | |
| General | IEC 61010-1, pollution degree 2 | |
| Lithium battery | IEC 62133, UN 38.3; 14.4 V, 6.7Ah, 97Wh, 4ICR19/66-2 (4s2p) Charge input 19.5 V, 1.6 A | |

Product Kit

| Item | Description |
|-----------|---|
| 1 | 729 Pro Automatic Pressure Calibrator |
| 2 | AC/DC converter |
| 3 | Power cord |
| 4 | Rechargeable Li-ion battery |
| 5 | Stackable test lead set |
| 6 | AC280 Sure Grip hook set (red and black) |
| 7 | Alligator clips (red and black) |
| 8 | One set of TP220 test probes (red and black) |
| 9 | USB communication cable: 3 ft (1 m) Type A plug for host (PC) to Mini-B plug for device |
| 10 | Flexible hose, 2 mm diameter , 1.5 m (5 ft) length |
| 11 | Fitting, 1/8 in NPT-Female x 1/4 in NPT-Female |
| 12 | Fitting, 1/8 in NPT-Male x 1/4 in NPT-Male |
| 13 | Fitting, 1/8 in NPT-Female x M20 Female |
| 14 | Fitting, 1/4 in BSP-Female x 1/8 in NPT-Female |
| 15 | Pressure Measurement Module (PMM) |
| 16 | Hose for draining condensed water generated inside the Product. 1/8 in diameter, 1 ft length |
| not shown | Adjustable quick-release strap for hanging the product, Safety Information, Traceable calibration report with data, PTFE tape |



Ordering information

| Models | Description | Fluke P/N |
|----------------|--|-----------|
| FLK-729Pro 4M | Fluke 729 Pro Automatic Pressure Calibrator, 4 Mpa | 5300476 |
| FLK-729Pro 7M | Fluke 729 Pro Automatic Pressure Calibrator, 7 Mpa | 5300483 |
| FLK-PMM-200K | Replaceable pressure module, (-15 to 30) psi, (-100 to 200) kPa, (-1 to 2) bar | 5299928 |
| FLK-PMM-200KA | Replaceable pressure module, absolute, (0 to 30) psi, (0 to 200) kPa, (0 to 2) bar | 5299970 |
| FLK-PMM-4000K | Replaceable pressure module, (-14 to 600) psi, (-95 to 4000) kPa, (-0.95 to 40) bar | 5300006 |
| FLK-PMM-7000K | Replaceable pressure module, (-14 to 1000) psi, (-95 to 7000) kPa, (-0.95 to 70) bar | 5299996 |
| FLK-PMM-7000KA | Replaceable pressure module, absolute, (0 to 1000) psi, (0~7000) kPa, (0 to 70) bar | 5299962 |

Optional accessories

| Description | Quantity | Fluke P/N |
|---|----------|-----------|
| BP729, Rechargeable Li-ion battery | 1 | 4817068 |
| AC power supply/ battery charger | 1 | 4878453 |
| International AC Adapter (except China) | 1 | 2441372 |
| Power cord, patch cord (except China) | 1 | 4542113 |
| Power cord (China only) | 1 | 2716592 |
| USB cable assembly | 1 | 4499448 |
| AC280, Suregrip hook set | 1 | 1610115 |
| Alligator clip set | 1 | 3765923 |
| Lead assembly, stackable test lead set | 1 | 3669716 |
| TP220, test probe, industrial | 1 | 3971276 |

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